The Clean Energy Group

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Ms. Sally Shaver, Co-Chair
Mr. John Paul, Co-Chair
U.S. EPA Mercury Work Group
Permits/New Source Review/Air Toxics Subcommittee
Clean Air Act Advisory Committee
Washington, D.C.
(via e-mail)

Re: The Clean Energy Group's Position on the Utility MACT Issues

Dear Ms. Shaver and Mr. Paul:

The Clean Energy Group (CEG) appreciates the opportunity to convey its positions to EPA on the issues that the Agency must resolve in setting MACT standards for electric utility steam generating units.

1. HAPs To Be Regulated

Section 112(c)(2) of the Clean Air Act (the Act) requires EPA to establish emission standards for listed categories and subcategories of hazardous air pollutants (HAPs). However, Congress elected to address the electric utility steam generating unit category separately under § 112(n)(1)(A) of the Act. Under this subsection, EPA is authorized to regulate HAP emissions emitted from electric utility steam generating units only if the Agency finds that it is "appropriate and necessary" to do so in order to protect public health. To date, EPA has concluded that such regulation is necessary with respect to mercury emissions from coal-fired units and, potentially, with respect to nickel from oil-fired units. Although EPA has indicated that other pollutants may be cause for concern, it has not made a formal determination that it is "appropriate and necessary" to regulate other HAPs associated with electric utility steam generating units. The CEG members would be pleased to work with the agency in developing the data and analysis required for EPA to reach a decision on these other HAPs, but – in contrast to the determination to regulate mercury – we do not believe that EPA has currently made the case to proceed with regulating other HAPs.

That said, it is also true that many of the emission reduction strategies necessary to reduce mercury emissions from electric utility steam generating units will have beneficial

effects in reducing other HAPs from these units. Likewise, emission reduction strategies likely to be employed to meet coming requirements associated with the federal health standard for fine particulates and federal regional haze requirements may also have beneficial effects in reducing utility HAPs. Irrespective of EPA's decision to proceed with a determination on the need to regulate other electric utility HAPs, we encourage the Agency to think about the multi-pollutant effects of any emission reduction requirement imposed upon our industry and incorporate both the benefits and costs of these multipollutant effects in the Agency's regulatory decision making.

During the course of FACA discussions it has been suggested that EPA address the broader category of electric utility HAPs through the use of "surrogates." If EPA decides to regulate other HAPs from coal and oil-fired utility generating units, CEG believes that the Agency should use appropriate "surrogates" for certain classes of HAPs emitted from these units, including metals, acid gases and organic compounds. It is important that these surrogates be used not only in the MACT determination process, but also in the determination of compliance .

2. Subcategorization

As a general rule, CEG members oppose subcategorization. Although the notion of a regulatory regime that customizes an emission standard for each coal type consumed and technology employed is attractive, we believe that the practical reality of such a regulatory regime would be the worst form of command-and-control regulation. As companies that are active in competitive wholesale energy markets, we cannot tolerate environmental regulations that constrain our flexibility to find the most effective solutions to environmental problems.

Over the past ten years, there has been a tremendous change in our industry as a result of FERC Order 888 and other federal and state initiatives to encourage competition in both wholesale and retail electricity markets. In many jurisdictions, operating costs that were once directly passed on to retail customers through periodically adjusted fuel tariffs incorporated into retail rates are now borne solely by wholesale generation companies, which have no other mechanism for recovering costs other than through the wholesale price of energy determined in a competitive market. Among all companies doing business in these markets, this new dynamic has heightened attention to fuel costs, which account for approximately 75 percent on any generating unit's variable cost. The trend in the industry has been away from long-term fixed price contracts for coal and other fuels toward contracts of a year or two - at most - as companies strive to capture these subtle changes in fuel price while using newly developed financial strategies to hedge against fuel price risk.

At the same time, the compliance flexibility afforded companies through the federal Acid Rain Program and other emission trading programs has encouraged companies to think of fuel supply as a compliance option, and today many companies use various blends of

coals to optimize their emission performance. The variability we see in EPA's mercury ICR data, and the role that chlorine content, sulfur content, and other constituents in coal may play in optimizing the effectiveness of various control technology options suggest to us that fuel switching and fuel blending may become even more common in the years ahead. We would oppose any regulation that hampers our ability to quickly optimize performance and cost as necessary to meet the economic demands of the market and the environmental expectations of the public.

Today, in most jurisdictions, we enjoy the ability to shift among fuel supplies and suppliers at will, without the need to seek the time-consuming approval of regulators to switch. Schemes that tie emission rate to fuel type imply a regulator's interest in the fuel being used. We can only imagine the permit conditions surrounding fuel choice that will be written and the reports on fuel use that will be required to provide the regulatory community with comfort that the regulatory obligation is being met. This may be particularly problematic in cases where a unit utilizes more than one fuel category, such as those facilities that burn blends of bituminous and sub-bituminous coal. In sum, from the perspective of the electric utilities a large number of subcategories may significantly limit the flexibility to manage a facility's operational conditions and fuel choice. In the context of a competitive market for supplying electric generation, operational flexibility and fuel choice are of paramount importance. Overly prescriptive emissions standards are not consistent with these objectives.

At the same time, we concede that the design and operation of electric utility steam generating units differ such that certain subcategories should be established before MACT limits are set. CEG believes that one such subcategory should be Fluidized Bed Combustion (FBC) technology because it uses a unique combustion system that operates with cooler combustion temperatures that result in much lower mercury emissions than conventional pulverized coal (PC) boilers. A second subcategory should be PC boilers that burn lignite coal, in recognition of the high mercury content in lignite, and the reality that few boilers in limited geographical areas make use of this low-BTU coal. The third subcategory should be PC boilers that burn bituminous and/or sub-bituminous coal. The grouping together of bituminous and subbituminous coals will provide the flexibility needed for coal blending and coal switching.

3. MACT Floor

A MACT floor for the three subcategories of existing sources identified above (i.e., FBC, PC boilers burning lignite and PC boilers burning bituminous and/or sub-bituminous coal) must be established through a determination of the "average emission limitation achieved by the best performing 12 percent of the existing sources" for which emission test data is available. The issue is how to determine the average performance of the top 12 percent of existing facilities, considering the variability in emissions at the best performing sources under the worst foreseeable circumstances.

We propose the following approach:

- For existing sources, EPA should first identify the top 12 percent of facilities from the available database.
- The Agency should then identify the primary emissions control technology used by the facilities in that group with emission levels at or better than the average for the group.
- EPA should then look to all sources in the database using the identified control technology, provided the control was well designed and operated.
- Finally, EPA should set the MACT floor such that the floor accounts for operational variability. CEG does not currently have a view as to how best to account for variability, but believes that the approach outlined sets forth a reasonable strategy for establishing a mercury MACT floor for coal-fired power plants that reflects emissions variability under worst-case operating conditions.

With respect to new sources, the Act requires that MACT standards not be less stringent than the control level achieved in practice by the best controlled similar source. CEG suggests that a similar methodology to the one described above for setting the MACT floor for existing coal-fired units be applied to new units. In the case of new sources, however, instead of identifying the control technology used by the best 12 percent of facilities, the emission control technology used by the *best* performing plant would be identified. Then, considering all facilities in the database using that technology, the floor would be set based on some mathematical or statistical measure that reflects inherent operational variability, using, for example, an average, a median or a 95 percent confidence interval value.

4. Beyond-the-Floor Regulation

Beyond-the-floor analyses will require EPA to weigh cost, energy requirements, and non-air quality impacts to determine whether a mercury MACT standard stricter than the floor level is achievable. A number of new technologies for reducing mercury emissions from coal-fired boilers are in various stages of research and development. Some of these new technologies may prove to be attractive control options for mercury, based on the results of studies performed thus far. For example, activated carbon injection is a potentially cost-effective technology for achieving high levels of mercury reduction from coal-fired electric utility generating units.

5. Format of Standard

As indicated earlier, MACT standards should provide facilities with operational flexibility in demonstrating compliance with the standards, including flexibility with regard to fuel choice. One option for the format of the MACT standard for electric utility steam generating units is an emission rate; another is an emission control efficiency level. One advantage of an emission rate approach as opposed to an emission control efficiency

approach is that the former gives a greater degree of certainty in terms of emissions. In addition, an emission rate standard would be administratively simple to implement. On the other hand, if a facility installs MACT controls, the public will expect it to operate at optimal performance efficiency even if the current coal stock is low in mercury content. A control efficiency standard could be a better alternative for the utilities if there is a wide variability in the mercury content of the coal purchased. A third option is a combined standard that allows the opportunity to meet either the emission rate or the control efficiency. Without specifying the appropriate rate or control efficiency, CEG supports the either/or approach, since it is most responsive to the need for operational flexibility in achieving compliance. Additionally, CEG generally supports output-based standards.

With respect to the averaging time for a mercury MACT standard, CEG recommends that a long-term (i.e., annual) averaging time be adopted. The potential health concerns identified by EPA in its December 2000 listing decision for mercury and in the extensive studies on which that decision is based are believed to arise from the long-term accumulation of mercury in the environment; thus, there is no demonstrated need for a short-term averaging period.

6. Compliance Monitoring Method

The ability to comply with a long-term standard typically involves the use of a continuous emission monitoring (CEM) system. Currently, work is on-going to develop mercury CEMs. To date, however, mercury CEMs have not been proven to have the necessary accuracy and reliability to be used as a compliance tool. Until the CEM accuracy and reliability issue is resolved to EPA's satisfaction, compliance should be monitored using EPA Method 101A for total mercury. This testing should be performed on an annual basis in conjunction with annual RATA (relative accuracy test audit) testing. To ensure compliance prior to the availability of mercury CEMs, in addition to annual testing using method 101A, parametric monitoring of pollution control equipment could be required on a reasonably frequent basis. For example, appropriate parametric measures such as scrubber slurry rates (gpm) for scrubbed units or, for units with ESPs, appropriate amp rate, spark rate and/or rapping rate could be considered. There should be an initial compliance demonstration using Method 101A, as a means to calibrate the CEM, followed by additional testing that would become less frequent as the accuracy of the CEM is validated and the transition to this monitoring method occurs.

7. The Compliance Unit

Compliance with MACT limits should be on a *facility* basis rather than on a boiler-by-boiler basis. In many cases, the emission control equipment handles multiple units at a facility. A facility-based limit would allow some flexibility in unit operation without any adverse impact on total emissions.

8. Oil-Fired Units (Nickel)

If EPA finds it appropriate and necessary to regulate nickel from oil-fired units, we recommend, consistent with the views put forth above, that MACT standards provide facilities with operational flexibility for compliance, including flexibility with regard to fuel choice. In that regard, we recommend a rate-based standard, regardless of fuel burned. In many cases, oil-burning units have the ability to burn natural gas. Use of natural gas as a means to comply with a rate-based MACT standard will increase operational flexibility while decreasing the amount of nickel emitted.

As mentioned above with respect to the averaging time for a mercury MACT standard, CEG recommends a long-term (i.e., annual) averaging time for any nickel standard. Possible health effects from nickel, as from mercury, are believed to arise from the long-term accumulation of nickel in the environment, thus obviating the need for a short-term averaging period.

That said, CEG shares the views of other stakeholders that the database for nickel raises serious concerns, both because of its small size and because of the apparent absence of discernable trends.

Sincerely,

Robert LaCount

for The Clean Energy Group and
PG&E National Energy Group